

Yuma Proving Ground  
Yuma  
Yuma County  
Arizona

HAER No. AZ-5

HAER  
ARIZ,  
14-YUMA,  
1-

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
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HAER  
ARIZ  
14-YUMA,  
1-

# HISTORIC AMERICAN ENGINEERING RECORD

## Yuma Proving Ground

AZ-5

Location: In southwestern Arizona in Yuma County, east of the Colorado River.

Date of Construction: Established in 1942.

Owner: Department of the Army

Significance: Yuma Proving Ground was established during World War II by the Corps of Engineers for the testing of a new floating bridge. In 1951, the facility shifted in emphasis to become a testing center for many types of Army equipment, from tanks to water purification units.

Historical Report  
Prepared by: William Brenner, 1984

Prepared for  
Transmittal by: Robie S. Lange, HABS/HAER, 1985.

## EXECUTIVE SUMMARY

The Yuma Proving Ground, part of the U.S. Army Test and Evaluation Command, occupies 838,174 acres in southwestern Arizona. The installation conducts artillery, aircraft, and desert mobility tests, as well as various environmental tests. It contains a highly instrumented multipurpose aircraft armament testing range, vehicular test courses, amphibious testing areas, and a large gunnery range.

The origins of the proving ground date from 1942, when the land it now occupies was included in Maneuver Area B of General George S. Patton's Desert Training Center, renamed the California-Arizona Maneuver Area in 1943. One of the training center's six temporary division tent camps, Camp Laguna, was located on the site of the present Mobility Test Area.

In early 1943, the Army Corps of Engineers began testing a new floating bridge on the Colorado River below Imperial Dam, several miles northwest of Camp Laguna. Tests were conducted by the Engineer Board's Yuma Test Branch and carried out by Engineer battalions under command of the California-Arizona Maneuver Area and, later, by Italian service units. In 1947, the Yuma Test Branch was moved from its site below the Imperial Dam to the present Main Post area at the proving ground. The first group of permanent buildings was constructed at this time. After a structural collapse in the Gila desilting basin below the dam in 1949, bridge testing ceased. Yuma Test Branch closed shortly thereafter, but in 1951 the Yuma Test Station opened on the same site, and the buildings in the Main Post area were reoccupied. The majority of the proving ground's existing 664 buildings and structures were

were reoccupied. The majority of the proving ground's existing 664 buildings and structures were erected in the following ten years as the station became an important testing center for many types of Army equipment, from tanks to water purification units.

There are no Category I, II, or III historic properties at Yuma Proving Ground.

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## PREFACE

This report presents the results of an historic properties survey of the Yuma Proving Ground. Prepared for the United States Army Materiel Development and Readiness Command (DARCOM), the report is intended to assist the Army in bringing this installation into compliance with the National Historic Preservation Act of 1966 and its amendments, and related federal laws and regulations. To this end, the report focusses on the identification, evaluation, documentation, nomination, and preservation of historic properties at the Yuma Proving Ground. Chapter 1 sets forth the survey's scope and methodology; Chapter 2 presents an architectural, historical, and technological overview of the installation and its properties; and Chapter 3 identifies significant properties by Army category and sets forth preservation recommendations. Illustrations and an annotated bibliography supplement the text.

This report is part of a program initiated through a memorandum of agreement between the National Park Service, Department of the Interior, and the U.S. Department of the Army. The program covers 74 DARCOM installations and has two components: 1) a survey of historic properties (districts, buildings, structures, and objects), and 2) the development of archeological overviews. Stanley H. Fried, Chief, Real Estate Branch of Headquarters DARCOM, directed the program for the Army, and Dr. Robert J. Kapsch, Chief of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) directed the program for the National Park Service. Sally Kress Tompkins was program manager, and Robie S. Lange was project manager for the historic properties survey. Technical assistance was provided by Donald C. Jackson.

Building Technology Incorporated acted as primary contractor to HABS/HAER for the historic properties survey. William A. Brenner was BTI's principal-in-charge and Dr. Larry D. Lankton was the chief technical consultant. Major subcontractors were the MacDonald and Mack Partnership and Melvyn Green and Associates. The author of this report was William Brenner. The author gratefully acknowledges the help of Carl Johnson, who was the proving ground's Environmental Engineer at the time of the survey, and Jim Coles, the post Public Affairs Officer.

The complete HABS/HAER documentation for this installation will be included in the HABS/HAER collections at the Library of Congress, Prints and Photographs Division, under the designation HAER No. AZ-5.

## Chapter 1

### INTRODUCTION

#### SCOPE

This report is based on an historic properties survey conducted in 1983 of Army-owned properties located within the official boundaries of the Yuma Proving Ground. The survey included the following tasks:

- Completion of documentary research on the history of the installation and its properties.
- Completion of a field inventory of all properties at the installation.
- Preparation of a combined architectural, historical, and technological overview for the installation.
- Evaluation of historic properties and development of recommendations for preservation of these properties.

Also completed as a part of the historic properties survey of the installation, but not included in this report, are HABS/HAER Inventory cards for 18 individual properties. These cards, which constitute HABS/HAER Documentation Level IV, will be provided to the Department of the Army. Archival copies of the cards, with their accompanying photographic negatives, will be transmitted to the HABS/HAER collections at the Library of Congress.

The methodology used to complete these tasks is described in the following section of this report.



## METHODOLOGY

### 1. Documentary Research

The Yuma Proving Ground is a large, and highly unique, desert testing facility that dates from early 1943, when it was first activated as the Yuma Test Branch. Documentary research focussed on the physical development of the proving ground and on its general history. The Arizona State Historic Preservation Office was contacted about possible historic properties at the Yuma Proving Ground but none were identified by this source.

Army records used for the field inventory included current Real Property Inventory (RPI) printouts that listed all officially recorded buildings and structures by facility classification and date of construction; the plant's property record cards; base maps, and photographs supplied by installation personnel, and various reports and documents relating to master planning and environmental assessment. A complete listing of documentary material may be found in the bibliography.

### 2. Field Inventory

The field inventory was conducted by William Brenner during a two-day period in March 1983. Carl Johnson, the installation Environmental Engineer at the time of the survey, served as the point of contact and coordinated the survey activities. Mr. Johnson also acted as survey escort.

Field inventory procedures were based on the HABS/HAER Guidelines for Inventories of Historic Buildings and Engineering and Industrial Structures.<sup>1</sup>

The Main Post, the Mobility Test Area, Laguna Army Airfield, and the KOFA Firing Range were surveyed. Building locations and approximate dates of construction were noted from the installation's property records and field-verified. The remainder of this approximately 1310 square mile installation contains only a small number of post-war utilitarian structures and was not surveyed. USGS topographic maps (7.5 and 15 minute series) for the entire proving ground area were closely examined to help confirm reports from installation personnel that no pre-military structures still stand on Army property.

The earliest buildings at the proving ground date from 1947-48. Field inventory forms were completed for the majority of these properties, and for other representative post-war buildings and structures.<sup>2</sup> Information collected on the field forms was later evaluated, condensed, and transferred to HABS/HAER Inventory cards.

### 3. Historic Overview

A combined architectural, historical, and technological overview was prepared from information developed from the documentary research and the field inventory. It was written in two parts: 1) an introductory description of the installation, and 2) a history of the installation by periods of development, beginning with pre-military land uses. Maps and photographs were selected to supplement the text as appropriate.

The objectives of the overview were to 1) establish the periods of major construction at the installation, 2) identify important events and individuals associated with specific historic properties, 3) describe patterns and locations of historic property types, and 4) analyze specific building and industrial technologies employed at the installation.

4. Property Evaluation and Preservation Measures

Based on information developed in the historical overviews, properties were first evaluated for historical significance in accordance with the eligibility criteria for nomination to the National Register of Historic Places. These criteria require that eligible properties possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that they meet one or more of the following:<sup>3</sup>

- A. Are associated with events that have made a significant contribution to the broad patterns of our history.
- B. Are associated with the lives of persons significant in the nation's past.
- C. Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield, information important in pre-history or history.

Properties thus evaluated were further assessed for placement in one of five Army historic property categories as described in Army Regulation 420-40:<sup>4</sup>

Category I	Properties of major importance
Category II	Properties of importance
Category III	Properties of minor importance
Category IV	Properties of little or no importance
Category V	Properties detrimental to the significance of of adjacent historic properties

Based on an extensive review of the architectural, historical, and technological resources identified on DARCOM installations nationwide, four criteria were developed to help determine the appropriate categorization level for each Army property. These criteria were used to assess the importance not only of properties of traditional historical interest, but of the vast number of standardized or prototypical buildings, structures, and production processes that were built and put into service during World War II, as well as of properties associated with many post-war technological achievements. The four criteria were often used in combination and are as follows:

- 1) Degree of importance as a work of architectural, engineering, or industrial design. This criterion took into account the qualitative factors by which design is normally judged: artistic merit, workmanship, appropriate use of materials, and functionality.

- 2) Degree of rarity as a remaining example of a once widely used architectural, engineering, or industrial design or process. This criterion was applied primarily to the many standardized or prototypical DARCOM buildings, structures, or industrial processes. The more widespread or influential the design or process, the greater the importance of the remaining examples of the design or process was considered to be. This criterion was also used for non-military structures such as farmhouses and other once prevalent building types.
- 3) Degree of integrity or completeness. This criterion compared the current condition, appearance, and function of a building, structure, architectural assemblage, or industrial process to its original or most historically important condition, appearance, and function. Those properties that were highly intact were generally considered of greater importance than those that were not.
- 4) Degree of association with an important person, program, or event. This criterion was used to examine the relationship of a property to a famous personage, wartime project, or similar factor that lent the property special importance.

The majority of DARCOM properties were built just prior to or during World War II, and special attention was given to their evaluation. Those that still remain do not often possess individual importance, but collectively they represent the remnants of a vast construction undertaking whose architectural, historical, and technological importance needed to

1940-1945 period, and its contribution to the history of World War II and the post-war Army landscape.

Because technology has advanced so rapidly since the war, post-World War II properties were also given attention. These properties were evaluated in terms of the nation's more recent accomplishments in weaponry, rocketry, electronics, and related technological and scientific endeavors. Thus the traditional definition of "historic" as a property 50 or more years old was not germane in the assessment of either World War II or post-war DARCOM buildings and structures; rather, the historic importance of all properties was evaluated as completely as possible regardless of age.

Property designations by category are expected to be useful for approximately ten years, after which all categorizations should be reviewed and updated.

Following this categorization procedure, Category I, II, and III historic properties were analyzed in terms of:

- Current structural condition and state of repair. This information was taken from the field inventory forms and photographs, and was often supplemented by rechecking with facilities engineering personnel.
- The nature of possible future adverse impacts to the property. This information was gathered from the installation's master planning documents and rechecked with facilities engineering personnel.

Based on the above considerations, the general preservation recommendations presented in Chapter 3 for Category I, II, and III historic properties were developed. Special preservation recommendations were created for individual properties as circumstances required.

5. Report Review

Prior to being completed in final form, this report was subjected to an in-house review by Building Technology Incorporated. It was then sent in draft to the subject installation for comment and clearance and, with its associated historical materials, to HABS/HAER staff for technical review. When the installation cleared the report, additional draft copies were sent to DARCOM, the appropriate State Historic Preservation Officer, and, when requested, to the archeological contractor performing parallel work at the installation. The report was revised based on all comments collected, then published in final form.

NOTES

1. Historic American Buildings Survey/Historic American Engineering Record, National Park Service, Guidelines for Inventories of Historic Buildings and Engineering and Industrial Structures (unpublished draft, 1982).
2. Representative post-World War II buildings and structures were defined as properties that were: (a) "representative" by virtue of construction type, architectural type, function, or a combination of these, (b) of obvious Category I, II, or III historic importance, or (c) prominent on the installation by virtue of size, location, or other distinctive feature.
3. National Park Service, How to Complete National Register Forms (Washington, D.C.: U.S. Government Printing Office, January 1977).
4. Army Regulation 420-40, Historic Preservation (Headquarters, U.S. Army: Washington, D.C., 15 April 1984).

## Chapter 2

### HISTORICAL OVERVIEW

#### BACKGROUND AND PREMILITARY LAND USE

The Yuma Proving Ground, part of the U.S. Army Test and Evaluation Command, occupies 838,174 acres in the Sonoran Desert in southwestern Arizona, one of the most sparsely populated regions in the United States. The proving ground is responsible for conducting tests on a variety of military items including weapons, munitions, and vehicular equipment. It has a multipurpose aircraft armament testing range with a highly instrumented complex of cinetheodolite, telemetry, radar, laser, and multi-lateration space positioning systems. The proving ground also contains vehicle test courses, drop zones for air drop and impact testing, and a large gunnery range.<sup>1</sup> (Illustrations 1 and 2)

The Yuma Indians are known to have inhabited portions of the proving ground more than a thousand years ago. Nine identified Yuman and other Indian archeological sites lie within its borders. Mining discoveries in 1858 led to a flurry of mining activity in the vicinity of the proving ground, some of which still continues. All mining sites on the installation (Copper Chief, Copper Giant, Hart, Tweed, Gold Harp, among others) are abandoned, and there is no record of any standing structures at these sites. A former stage route from Yuma to Quartzsite, Arizona, is marked by a sign on the proving ground's Dust Course, but the installation is devoid of any premilitary structures.



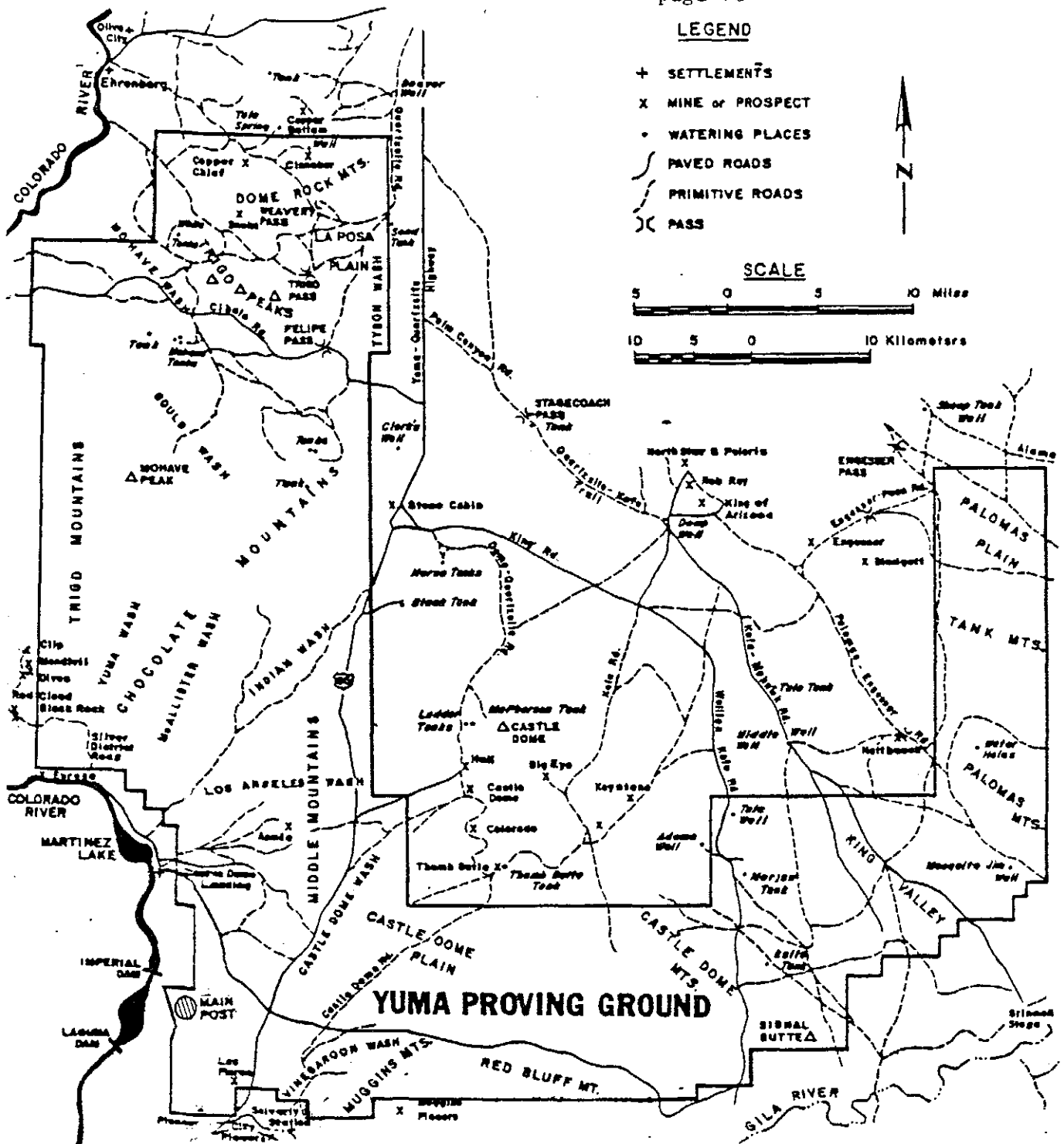


Illustration 1 Map of Yuma Proving Ground. The 838,174 acre proving ground in southwestern Arizona is one of the largest uninhabited regions in the United States. It's main activity areas are located in the southwestern corner near Imperial Dam. (Source: Higginbotham and Associates, Installation Environmental Impact Assessment, October 1978)

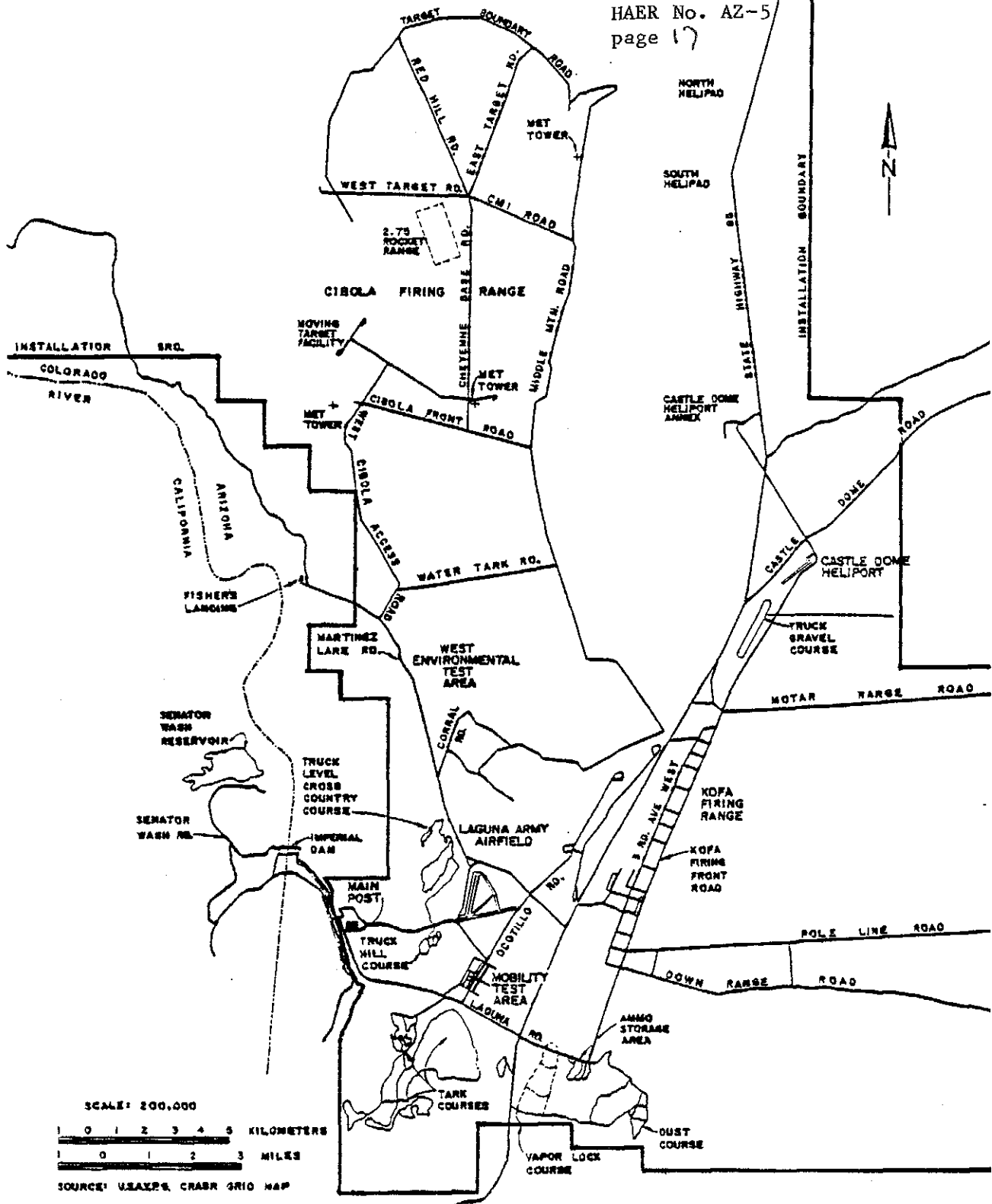


Illustration 2 Map of main activity areas of Yuma Proving Ground, including the Main Post, the Mobility Test Area, the Laguna Army Air Field, the KOFA Firing Range, the West Environmental Test Area, the Cibola Firing Range, the Castle Dome Heliport and Annex, and various vehicular test courses. (Source: Higginbotham and Associates, Installation Environmental Assessment, October 1978)

CALIFORNIA-ARIZONA MANEUVER AREA, 1942-1944

In early 1942, General George S. Patton established the Army Desert Training Center (later called the California-Arizona Maneuver Area) in southern California and Arizona to train Army troops for the invasion of North Africa, then under the control of Rommel's Afrika Korps. The training center's boundaries stretched from Pomona, California, east to Phoenix, and from Yuma north to Boulder City, Nevada. Patton selected sites for his main division camps in March 1942 and troops began to arrive in April. The hot climate, sparse vegetation, and lack of rainfall in the thinly populated area were ideal for desert maneuvers, and the 18,000 square mile training center became the largest of its kind in U.S. military history. The center had three maneuver areas; one of them, Maneuver Area B, included the area now occupied by the Yuma Proving Ground.<sup>2</sup> (Illustration 3)

Camp Laguna, the site of the present Mobility Test Area at the proving ground, was the home of the 79th Infantry Division, one of the Desert Training Center's six division-sized units. Patton is said to have visited the camp sometime in the spring of 1942. The proving ground's Laguna Army Airfield, located about a mile north of the Mobility Test Area, was originally constructed to serve the encampment. No buildings or structures remain from this period at either location.<sup>3</sup>

Camp Horn, located between Kofa Station and Horn, Arizona, on the northern branch of the Southern Pacific Railroad (just below and outside the southeastern corner of the proving ground), housed the 81st Infantry Division from June to November 1943. Camp Hyder, situated about 15 miles northeast of

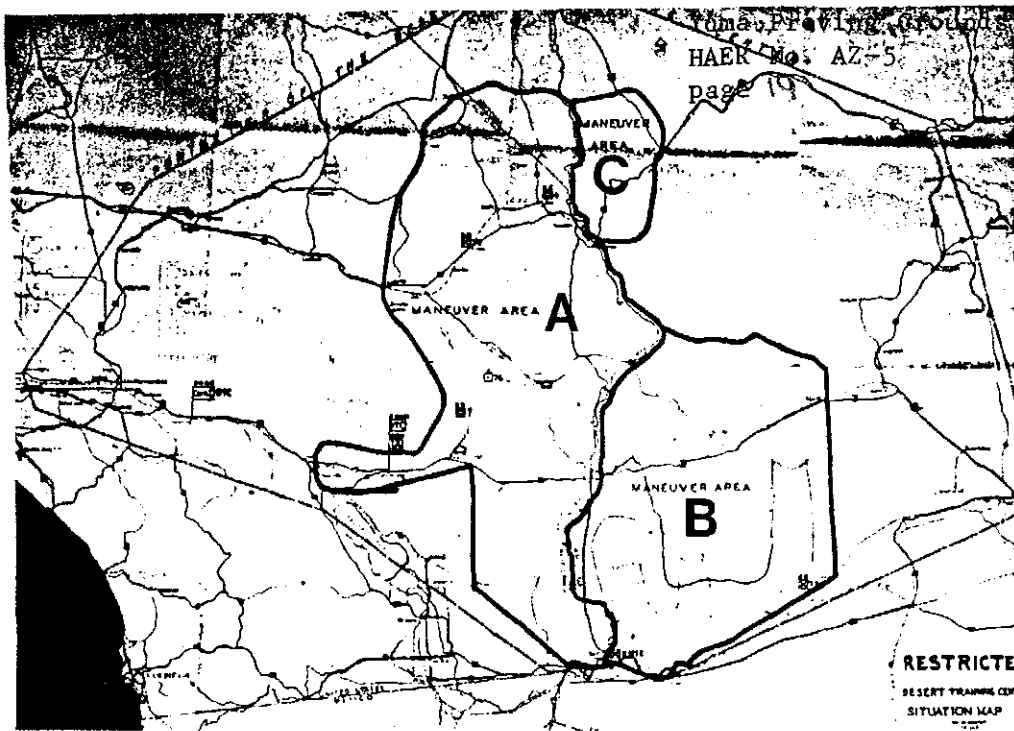


Illustration 3 Map of the Desert Training Center, 1942. The perimeter of the training center stretched from Pomona, California (far left) to Phoenix (just off map to right), and from Yuma (at the southwest corner of Maneuver Area B) to Boulder City, Nevada (off top of map). The Colorado River forms the eastern edge of Maneuver Area A; the Yuma Proving Ground covers most of the lower two thirds of Maneuver Area B. (Source: Periodical, Journal of the Council on America's Military Past, Volume II, Number 2, p. 7)



Illustration 4 Photo of tank crossing the Steel Treadway Bridge, M-2, the Army's first successful floating bridge, at the Yuma Test Branch, c. 1943. (Source: Public Affair Office, Yuma Proving Ground)

Camp Horn on the same branch of the railroad (and also located beyond the proving ground's boundaries), served as the base of the 77th Infantry Division from April to September 1943. A stone marker at the Camp Horn site is the only remaining structure at either camp, although the outlines of both camps are still visible from the air.<sup>4</sup>

After Rommel's defeat by the Allies in May 1943, desert hardened troops were no longer needed for the U.S. combat forces. The training center was renamed the California-Arizona Maneuver Area and continued to operate as a general maneuver ground until early 1944. By that time most new troops were being shipped directly overseas, and in April 1944 the training center was disbanded.<sup>5</sup>

#### YUMA TEST BRANCH, 1943-1949

The Army Corps of Engineers began preliminary experiments with floating bridges in late 1942 on the Colorado River below the Laguna Dam, about 15 miles northeast of Yuma. Work centered on adapting the Army's Steel Treadway Bridge to riverine use by the addition of pneumatic flotation devices. The Germans had devised floating bridges several years earlier and had used them to considerable advantage in combat. Based on these early experiments at Laguna Dam, an American version of the floating bridge was fabricated and a crash testing program established several miles upstream at the foot of the Imperial Dam.<sup>6</sup>

A government camp, built during the construction of the Imperial Dam in the 1930's, was rented from the Bureau of Reclamation for office and dormitory

space, and full time testing began in January 1943 under the auspices of the Engineer Board, Yuma Test Branch. Tests were organized by test branch personnel and carried out by Engineer battalions attached to the California-Arizona Maneuver Area. The first floating bridge demonstration took place in May; by September, less than a year after work had begun, final drawings and specifications were approved and procurement contracts negotiated for the new bridge, officially named the Steel Treadway Bridge, M-2. Engineer battalions continued to test and train below the dam site until mid-1944, when the last battalion was sent overseas.<sup>7</sup> (Illustration 4)

In October 1944, the Imperial Dam Engineer Station was formed to supply Italian Service Unit personnel to the test branch so that active bridge testing could be resumed. Between October 1944 and war's end, when the engineer station was disbanded and the Italian prisoners-of-war left Yuma for eventual shipment home, an entirely new bridge was developed and tested, the Floating Bridge, M-4. The M-4 had a redesigned deck and pontoon system, and was operational by mid-1945.<sup>8</sup>

The Yuma Test Branch continued bridge testing after the war, and in mid-1946 its activities expanded to include the desert testing of trucks, semi-trailers, cranes, and other equipment. A new main post, drawn up by the Army's Permanent Installation Planning Board, was approved for a more centrally located site about two miles southeast of Imperial Dam. (Illustration 5)

Ground breaking for the new site, now the present Main Post area, took place on March 28, 1947. The first buildings, completed in 1948 on the basis

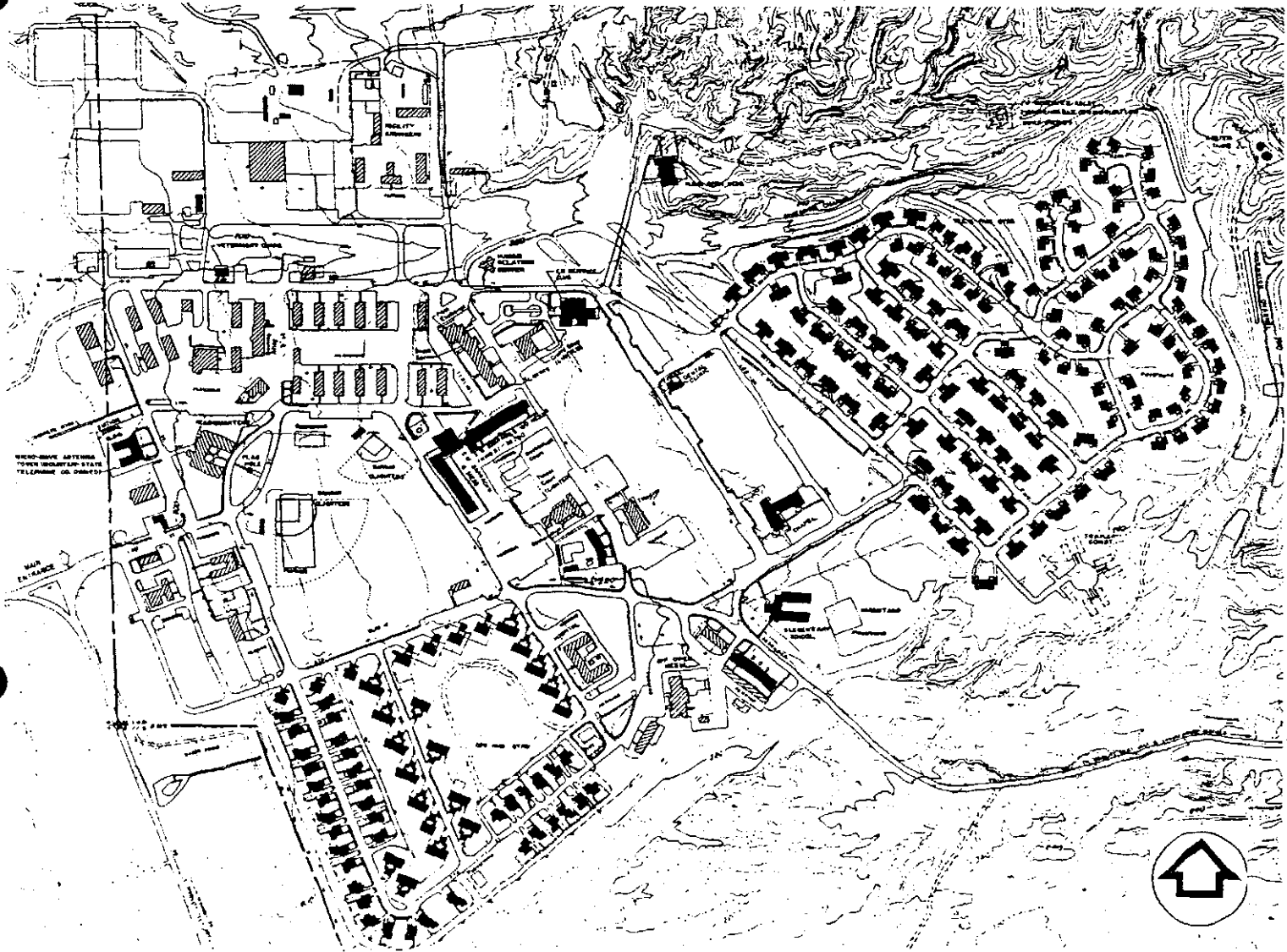


Illustration 5 Map of the Main Post area. The Main Post was drawn up by the Army's Permanent Installation Planning Board in 1946 and ground breaking took place on March 28, 1947. Early buildings include many of the cross-hatched structures on the upper left, and about two-thirds of the housing units at lower left. (Source: Facilities Engineer, Yuma Proving Ground)

of plans by the Los Angeles District, Corps of Engineers, included five barracks, a mess hall, a headquarters building, a company administration building, and eighteen family quarters. Twenty additional quarters were added within the year, along with a number of other recreational, administrative, and storage structures.<sup>9</sup> Those that still remain include:

- Post Headquarters (Building 2), a one-story U-shaped wood frame building with a gable roof, stucco exterior, and a continuous pent roof that shades the building's windows. (Illustration 6)
- The original five barracks buildings (Buildings 300, 302-305), now converted to administrative and other uses. All are identical two-story wood frame structures with gable roofs and stucco exteriors. A continuous pent roof shades the ground floor windows of each building, suggesting that their design (like that of the post headquarters) is based on the Army's earlier Series 700 barracks. (Illustration 7)
- Community center (Building 1000), a two-story wood frame building with a gable roof and stucco exterior that was built as a civilian dormitory.
- Thirty-eight family housing units (Buildings 802, 803, 805-820, 822, 824, 826, 828, 830, 832, 836, and 946-957), erected in the southern portion of the main post area in 1948-49. These houses, not of standard Army design, were built with concrete tilt-up walls, a relatively innovative construction technique for that time. They are L-shaped with flat roofs and steel casement windows. In 1982-83, the wood joist roofs were replaced by precast concrete units. (Illustration 8)





Illustration 6 Post headquarters (Building 2). This structure is from the first group of buildings erected after the Yuma Test Branch was relocated from below the Imperial Dam to its current site in 1947-48. (Source: Field inventory photograph, William A. Brenner, Building Technology, Inc., 1983)

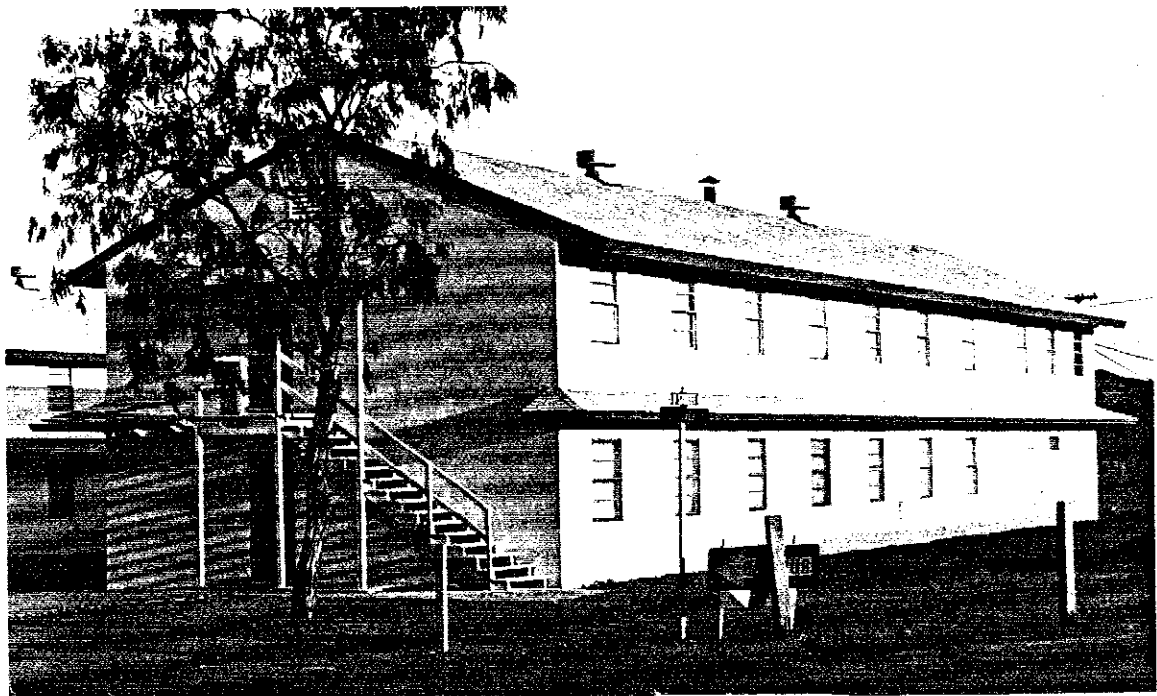


Illustration 7 Building 309, one of twelve virtually identical barracks built in the Main Post area between 1948 and 1953. The continuous pent roofs above the first floor windows suggest that their design is based on the Army's earlier Series 700 barracks. (Source: Field inventory photograph, William A. Brenner, Building Technology, Inc., 1983)

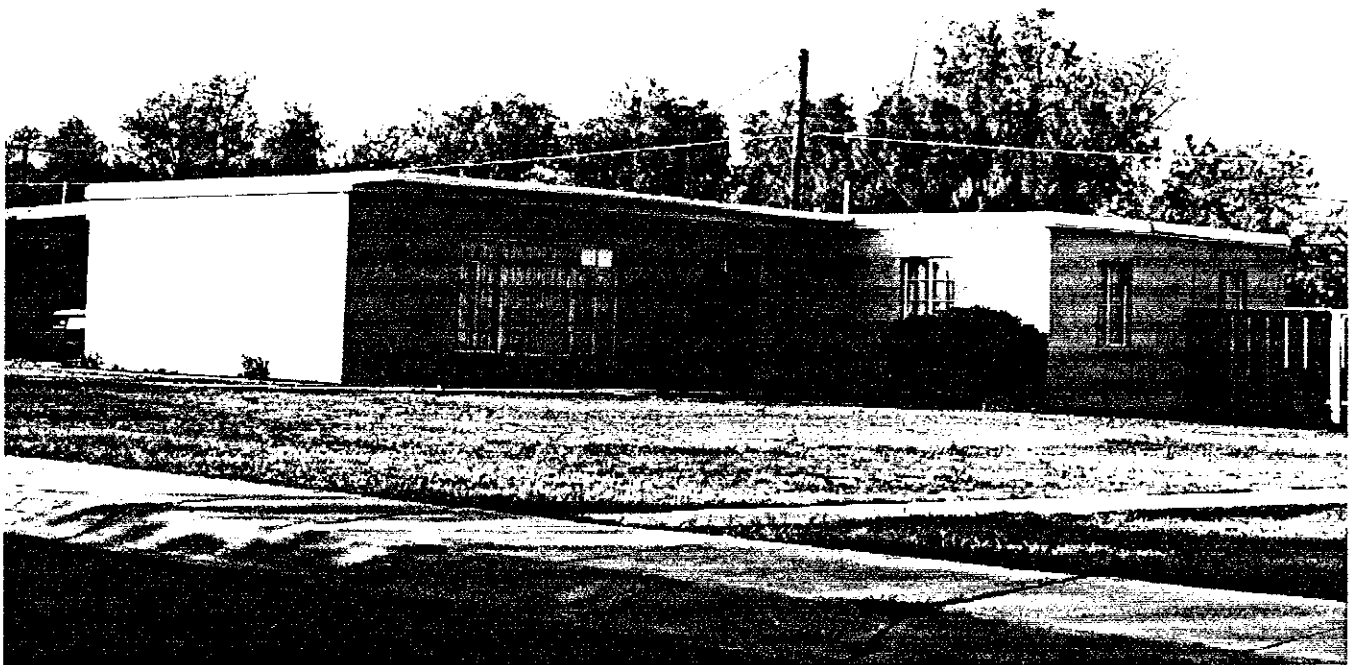


Illustration 8 Early family housing units, from the first group of 38 family housing units erected in 1948-49 in the Main Post area. It has concrete tilt-up walls, a relatively innovative construction technique for that time. (Source: Field inventory photograph, William A. Brenner, Building Technology, Inc., 1983)

In January 1949, a structural collapse at the Gila desilting basin below the Imperial Dam forced an end to much of the testing activity, and the Yuma Test Branch was closed in October of that year. The Los Angeles Engineer District assumed caretaker responsibility for the installation in January 1950.<sup>10</sup> With the exception of a small stone paint locker built by the Italian prisoners-of-war, all buildings in the original test site below Imperial Dam were sold. Portable buildings in the new main post area were dismantled and shipped to Fort Belvoir, Virginia. The original test site has since been removed from proving ground's boundaries.

#### YUMA PROVING GROUND, 1951-PRESENT

The installation was reactivated in April 1951 as the Yuma Test Station, and renamed the Yuma Proving Ground in 1963. The majority of the buildings in the main post area date from the decade the installation reopened. These include: the post exchange (Building 504) built in 1952; seven barracks built in 1952 and 1953 (Buildings 306-309, 500, 501, and 503) that are virtually identical to the 1948 barracks (see Illustration 6); an officer's open mess (Building 1001) built in 1953; a commissary and gymnasium (Buildings 105 and 518) built in 1954; a hospital (Building 990) built in 1956; and a theater (Building 515) built in 1957. All are wood frame structures with stucco exteriors. In 1954 a large metal quonset-type vehicle maintenance building (Building 204) was erected north of the barracks area (Illustration 9), and in 1957 twenty-six permanent single family housing units were built in the post housing area. The houses, all one-story wood frame structures with flat built-up roofs and stucco exteriors, are of good architectural design.

A large L-shaped three-story enlisted barracks (Building 506), built with concrete block load-bearing walls and a flat roof, was constructed in the main post area in 1958. A three-story BOQ (Building 1004) of similar construction was built to the southeast of the barracks the same year. In 1959, 143 additional Capehart program family housing units were erected on a hill east of the post area. They are wood frame dwellings with gable roofs and, like the earlier housing units at the proving ground, have stucco exteriors. Since 1960, several other major permanent buildings have been erected in the main post area, including a post chapel (Building 1100) built in 1965; an enlisted club (Building 530) built in 1974; and an NCO open mess (Building 451) built in 1975.

Three major operational areas lie to the south and east of the main post: the Mobility Test Area, the Laguna Army Airfield, and the KOFA Firing Range (see Illustration 2 for their exact locations). Their buildings are described as follows:

- The Mobility Test Area, site of Camp Laguna in 1942-1943 and the current center for vehicular testing at the proving ground, contains several dozen metal buildings, all erected since 1950. Also located in the test area is the range control facility (Building 2105), a large modern style structure constructed in 1979. It has a reinforced concrete structure with stucco covered concrete block walls and a skylight-covered central atrium. A solar collector array is located adjacent to the southeast side of the building.

- The Laguna Army Airfield, which also dates from 1942-1943, contains a number of post-1950 structures. Most are steel-framed metal buildings, the largest of which are an aircraft maintenance hangar (Building 3015), built in 1970 and an aircraft hangar and test facility (Building 3017) built in 1979. A one-story concrete block building (Building 3021) that serves as the administration headquarters for airfield and test operations is located in the airfield complex; it was built in 1962.
- The KOFA Firing Range, named after the (now inactive) King of Arizona gold mine located north of the range site, is an instrumented gunnery range that contains a number of administrative, maintenance, and support structures. Most are steel-framed metal buildings, and all date after 1950. The largest structure at the proving ground, the weapons evaluation and maintenance facility (Building 3490), was built in the KOFA area in 1974. It is a huge steel-framed building with metal roof and exterior walls, and large sliding doors for tank exit and entry. (Illustration 10) Several kinds of ammunition storage igloos are also located in the KOFA area; the majority are of earth-covered steel arch construction, and date from 1956 or later.

The proving ground's West Environmental Test Area contains a number of open sites for various test programs and a limited number of temporary metal buildings, all of which are of recent vintage. The Cibola Firing Range, used for aircraft gunnery practice and related tests, and the Castle Dome Heliport and Annex also contain a small number of semi-permanent structures. The remainder of the proving ground is relatively unimproved except for single-lane gravel roads and jeep trails.

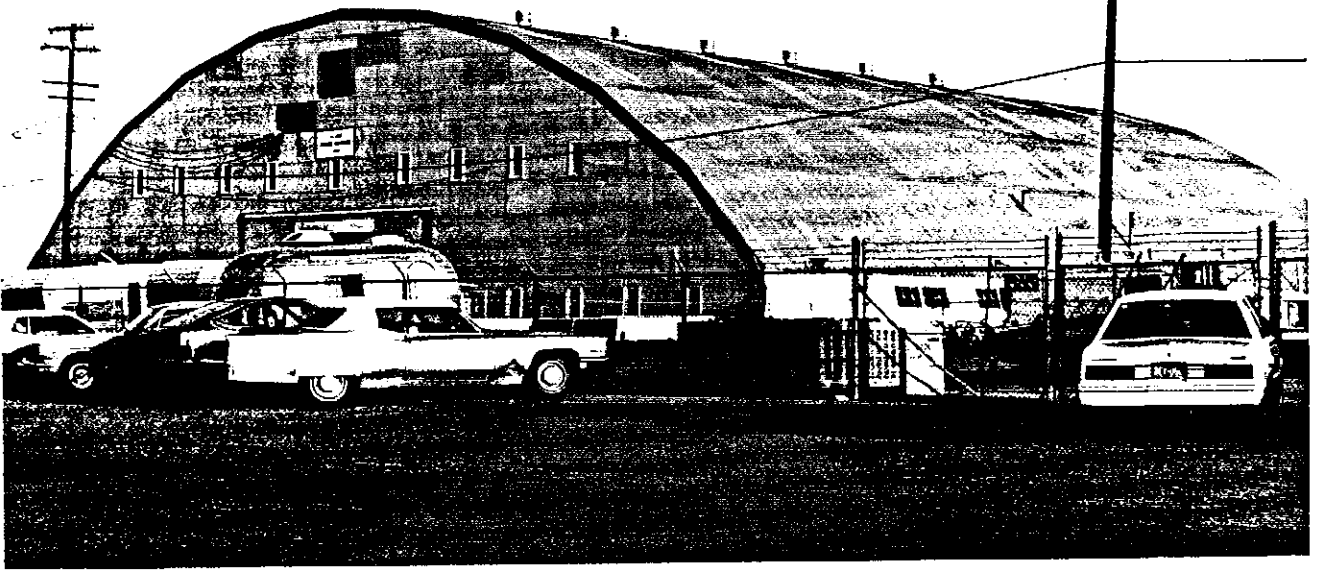


Illustration 9 Vehicle maintenance building (Building 204). The majority of structures located outside the central portion of the Main Post area of the proving ground are metal buildings. This structure, erected in 1954, is one of the oldest. (Source: Field Inventory photograph, William A. Brenner, Building Technology, Inc., 1983)

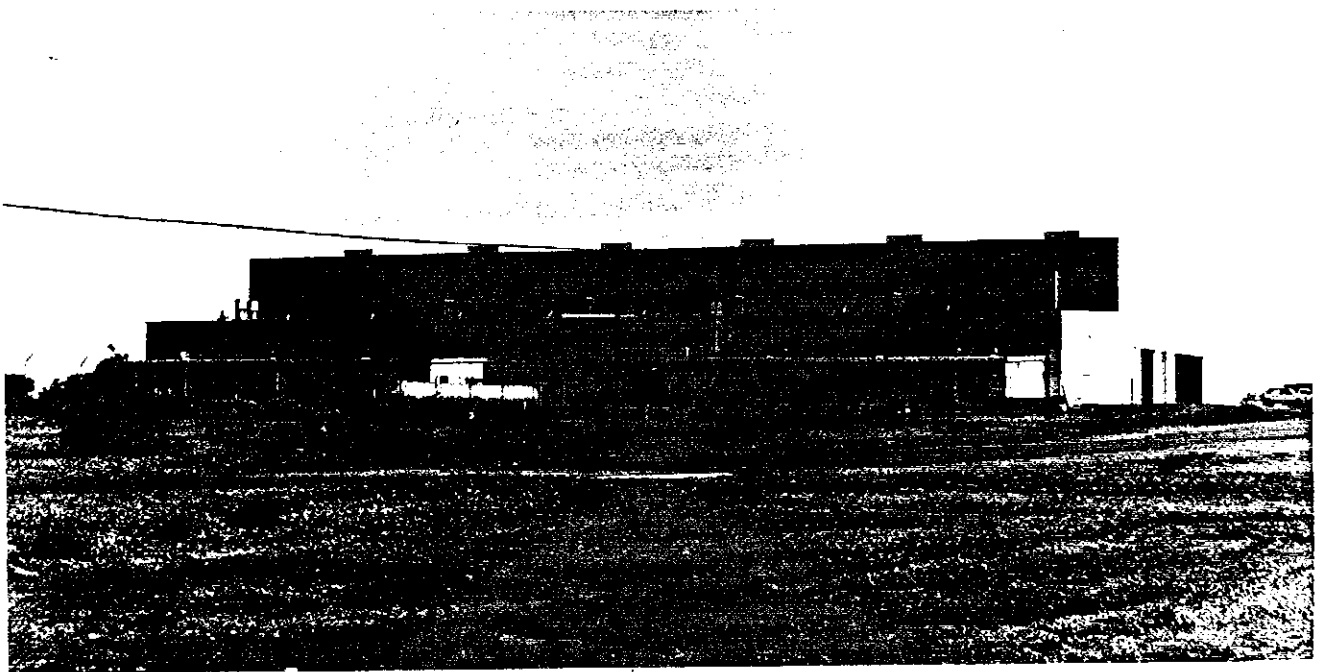


Illustration 10 Weapons evaluation and maintenance facility (Building 3490). This huge building, located in the KOFA area, is the largest structure on the proving ground. It was built in 1974. (Source: Field inventory photograph, William A. Brenner, Building Technology, Inc., 1983)

NOTES

1. Yuma Proving Ground, Installation and Activity Brochure (DARCOM, October 1981) and TECOM, This is TECOM (Aberdeen Proving Ground, n.d.), p. 19.
2. John W. Kennedy, John S. Lynch, and Robert L. Wooley, "Patton's Desert Training Center," Periodical, Journal of the Council on America's Military Past 2 (December 1982): 4-15.
3. Ibid, p. 53, and Higginbotham and Associates, "Installation Environmental Impact Assessment for the U.S. Army Yuma Proving Ground" (Colorado Springs: Higginbotham and Associates, October 1978), p. A-11.
4. Kennedy, Lynch, and Wooley, "Patton's Desert Training Center," pp. 16-32.
5. Ibid, pp. 15-16.
6. George W. Howard, "Bridges in the Desert: Early Days of the Yuma Proving Ground," Journal of Arizona History 17 (Winter 1976): 431-450.
7. Ibid, pp. 432-435.
8. Ibid, pp. 438-444.
9. Ibid, p. 446.
10. Ibid, pp. 447-448.

## Chapter 3

### PRESERVATION RECOMMENDATIONS

#### BACKGROUND

Army Regulation 420-40 requires that an historic preservation plan be developed as an integral part of each installation's planning and long range maintenance and development scheduling.<sup>1</sup> The purpose of such a program is to:

- Preserve historic properties to reflect the Army's role in history and its continuing concern for the protection of the nation's heritage.
- Implement historic preservation projects as an integral part of the installation's maintenance and construction programs.
- Find adaptive uses for historic properties in order to maintain them as actively used facilities on the installation.
- Eliminate damage or destruction due to improper maintenance, repair, or use that may alter or destroy the significant elements of any property.
- Enhance the most historically significant areas of the installation through appropriate landscaping and conservation.

To meet these overall preservation objectives, the general preservation recommendations set forth below have been developed:

#### Category I Historic Properties

All Category I historic properties not currently listed on or nominated to the National Register of Historic Places are assumed to be eligible for nomination regardless of age. The following general preservation recommendations apply to these properties:



- a) Each Category I historic property should be treated as if it were on the National Register, whether listed or not. Properties not currently listed should be nominated. Category I historic properties should not be altered or demolished. All work on such properties shall be performed in accordance with Sections 106 and 110(f) of the National Historic Preservation Act as amended in 1980, and the regulations of the Advisory Council for Historic Preservation (ACHP) as outlined in the "Protection of Historic and Cultural Properties" (36 CFR 800).
- b) An individual preservation plan should be developed and put into effect for each Category I historic property. This plan should delineate the appropriate restoration or preservation program to be carried out for the property. It should include a maintenance and repair schedule and estimated initial and annual costs. The preservation plan should be approved by the State Historic Preservation Officer and the Advisory Council in accordance with the above referenced ACHP regulation. Until the historic preservation plan is put into effect, Category I historic properties should be maintained in accordance with the recommended approaches of the Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings<sup>2</sup> and in consultation with the State Historic Preservation Officer.
- c) Each Category I historic property should be documented in accordance with Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) Documentation Level II, and the

documentation submitted for inclusion in the HABS/HAER collections in the Library of Congress.<sup>3</sup> When no adequate architectural drawings exist for a Category I historic property, it should be documented in accordance with Documentation Level I of these standards. In cases where standard measured drawings are unable to record significant features of a property or technological process, interpretive drawings also should be prepared.

#### Category II Historic Properties

All Category II historic properties not currently listed on or nominated to the National Register of Historic Places are assumed to be eligible for nomination regardless of age. The following general preservation recommendations apply to these properties:

- a) Each Category II historic property should be treated as if it were on the National Register, whether listed or not. Properties not currently listed should be nominated. Category II historic properties should not be altered or demolished. All work on such properties shall be performed in accordance with Sections 106 and 110(f) of the National Historic Preservation Act as amended in 1980, and the regulations of the Advisory Council for Historic Preservation (ACHP) as outlined in the "Protection of Historic and Cultural Properties" (36 CFR 800).
- b) An individual preservation plan should be developed and put into effect for each Category II historic property. This plan should

delineate the appropriate preservation or rehabilitation program to be carried out for the property or for those parts of the property which contribute to its historical, architectural, or technological importance. It should include a maintenance and repair schedule and estimated initial and annual costs. The preservation plan should be approved by the State Historic Preservation Officer and the Advisory Council in accordance with the above referenced ACHP regulations. Until the historic preservation plan is put into effect, Category II historic properties should be maintained in accordance with the recommended approaches in the Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings<sup>4</sup> and in consultation with the State Historic Preservation Officer.

- c) Each Category II historic property should be documented in accordance with Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) Documentation Level II, and the documentation submitted for inclusion in the HABS/HAER collections in the Library of Congress.<sup>5</sup>

#### Category III Historic Properties

The following preservation recommendations apply to Category III historic properties:

- a) Category III historic properties listed on or eligible for nomination to the National Register as part of a district or thematic group

should be treated in accordance with Sections 106 and 110(f) of the National Historic Preservation Act as amended in 1980, and the regulations of the Advisory Council for Historic Preservation as outlined in the "Protection of Historic and Cultural Properties" (36 CFR 800). Such properties should not be demolished and their facades, or those parts of the property that contribute to the historical landscape, should be protected from major modifications. Preservation plans should be developed for groupings of Category III historic properties within a district or thematic group. The scope of these plans should be limited to those parts of each property that contribute to the district or group's importance. Until such plans are put into effect, these properties should be maintained in accordance with the recommended approaches in the Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings<sup>6</sup> and in consultation with the State Historic Preservation Officer.

- b) Category III historic properties not listed on or eligible for nomination to the National Register as part of a district or thematic group should receive routine maintenance. Such properties should not be demolished, and their facades, or those parts of the property that contribute to the historical landscape, should be protected from modification. If the properties are unoccupied, they should, as a minimum, be maintained in stable condition and prevented from deteriorating.

HABS/HAER Documentation Level IV has been completed for all Category III historic properties, and no additional documentation is required as long as they are not endangered. Category III historic properties that are endangered for operational or other reasons should be documented in accordance with HABS/HAER Documentation Level III, and submitted for inclusion in the HABS/HAER collections in the Library of Congress.<sup>7</sup> Similar structures need only be documented once.

#### CATEGORY I HISTORIC PROPERTIES

There are no Category I historic properties at the Yuma Proving Ground.

#### CATEGORY II HISTORIC PROPERTIES

There are no Category II historic properties at the Yuma Proving Ground.

#### CATEGORY III HISTORIC PROPERTIES

There are no Category III historic properties at the Yuma Proving Ground.

NOTES

1. Army Regulation 420-40, Historic Preservation (Headquarters, U.S. Army: Washington, D.C., 15 April 1984).
2. National Park Service, Secretary of the Interior's Standards for Rehabilitation and Revised Guidelines for Rehabilitating Historic Buildings, 1983 (Washington, D.C.: Preservation Assistance Division, National Park Service, 1983).
3. National Park Service, "Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines," Federal Register, Part IV, 28 September 1983, pp. 44730-44734.
4. National Park Service, Secretary of the Interior's Standards.
5. National Park Service, "Archeology and Historic Preservation."
6. National Park Service, Secretary of the Interior's Standards.
7. National Park Service, "Archeology and Historic Preservation."

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Provides very complete account of the history of the Yuma Test Branch from 1943 to 1950.
- Kennedy, John W.; Lynch, John S.; and Wooley, Robert L. "Patton's Desert Training Center." Periodical, Journal of the Council on America's Military Past, II (December 1982): p. 3-54.  
Provides account of the Desert Training Center from 1942-44, and briefly mentions several sites at the present Yuma Proving Ground.
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